

Hemileuca maia maia (Eastern Buckmoth)

Priority 2 Species of Greatest Conservation Need (SGCN)

Class: *Insecta* (Insects)

Order: *Lepidoptera* (Butterflies, Skippers, And Moths)

Family: *Saturniidae* (Emperor, Atlas, Moon And Silk Moths)

General comments:

2 modern EOs (1 an unconfirmed sight record by Schweitzer); typical habitat in ME is PPSO, which is very rare, but could possibly be utilizing other dry, oak woodland habitats; flies diurnally, so would be often overlooked in typical moth collection efforts, but is a conspicuous species; has been looked for with no additional success; possibly extirpated (DS)

Species Conservation Range Maps for Eastern Buckmoth:

Town Map: [Hemileuca maia maia_Towns.pdf](#)

Subwatershed Map: [Hemileuca maia maia_HUC12.pdf](#)

SGCN Priority Ranking - Designation Criteria:

Risk of Extirpation: NA

State Special Concern or NMFS Species of Concern:

Hemileuca maia maia is listed as a species of Special Concern in Maine.

Recent Significant Declines: NA

Regional Endemic: NA

High Regional Conservation Priority: NA

High Climate Change Vulnerability: NA

Understudied rare taxa:

Recently documented or poorly surveyed rare species for which risk of extirpation is potentially high (e.g. few known occurrences) but insufficient data exist to conclusively assess distribution and status. *criteria only qualifies for Priority 3 level SGCN*

Notes:

Historical: NA

Culturally Significant: NA

Professional Discretion:

Current criteria ranked *Hemileuca maia maia* as SGCN priority 3, however, species should be SGCN priority 2 based on professional discretion.

Justification:

in northern portion of range (inc. Maine), species is restricted to PPSO barrens and has severely declined; possibly extirpated

Habitats Assigned to Eastern Buckmoth:

Formation Name	Northeastern Upland Forest
Macrogroup Name	Central Oak-Pine
Habitat System Name:	Central Appalachian Dry Oak-Pine Forest Notes: <i>potential; where host plant (scrub oak) present</i>
Habitat System Name:	Northeastern Interior Pine Barrens **Primary Habitat** Notes: <i>where host plant (scrub oak) present</i>
Macrogroup Name	Northern Hardwood & Conifer
Habitat System Name:	Northeastern Coastal and Interior Pine-Oak Forest Notes: <i>potential; where host plant (scrub oak) present</i>

Stressors Assigned to Eastern Buckmoth:

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Stressor Priority Level based on Severity and Actionability		Moderate Severity	High Severity
	Highly Actionable	Medium-High	High
	Moderately Actionable	Medium	Medium-High
	Actionable with Difficulty	Low	Low

IUCN Level 1 Threat **Natural Systems Modifications**

IUCN Level 2 Threat: Fire and Fire Suppression

Severity: Severe **Actionability:** Moderately actionable

Notes: Pine barren habitat is fire dependent - fire suppression can alter successional stage and habitat availability over time; fire can cause direct mortality

IUCN Level 1 Threat **Other Options**

IUCN Level 2 Threat: Lack of knowledge

Severity: Moderate Severity **Actionability:** Highly actionable

Notes: Only 2 modern EOs - possibly extirpated for unknown reason; lack of comprehensive survey effort, including outside PPSO habitat, to identify additional occurrences and determine species status

IUCN Level 1 Threat **Pollution**

IUCN Level 2 Threat: Agricultural and Forestry Effluents

Severity: Moderate Severity **Actionability:** Highly actionable

Notes: Nontarget species impacts from aerial pesticides; especially control efforts for gypsy moth in southern ME

IUCN Level 1 Threat **Residential and Commercial Development**

IUCN Level 2 Threat: Housing and Urban Areas

Severity: Severe **Actionability:** Moderately actionable

Notes: Habitat loss and fragmentation; pine barren habitat is prime land for development in southern ME

IUCN Level 1 Threat **Agriculture and Aquaculture**

IUCN Level 2 Threat: Annual and Perennial Non-timber crops

Severity: Moderate Severity **Actionability:** Moderately actionable

Notes: Some barren habitat is being converted to intensive blueberry production

IUCN Level 1 Threat **Energy Production and Mining**

IUCN Level 2 Threat: Mining and Quarrying

Severity: Moderate Severity **Actionability:** Moderately actionable

Notes: Habitat loss (e.g., sand and gravel extraction)

IUCN Level 1 Threat **Residential and Commercial Development**

IUCN Level 2 Threat: Commercial and Industrial Areas

Severity: Moderate Severity **Actionability:** Moderately actionable

Notes: Habitat loss and fragmentation; pine barren habitat is prime land for development in southern ME

IUCN Level 1 Threat **Transportation and Service Corridors**

IUCN Level 2 Threat: Roads and Railroads

Severity: Moderate Severity **Actionability:** Moderately actionable

Notes: Habitat loss and fragmentation; pine barren habitat is prime land for development in southern ME

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Species Level Conservation Actions Assigned to Eastern Buckmoth:

None. *Only species specific conservation actions that address high (red) or medium-high (orange) priority stressors are summarized here.*

Conservation Actions Associated with the Dry Barrens Lepidoptera Guild:

Conservation Action	Category:	Biological Priority:	Type:
Prepare occurrence maps and pesticide spray consultation guidelines for rare Lepidoptera and distribute to strategic partners including Maine Bureau of Pesticides Control.	Species Management	critical	new

Stressor(s) Addressed By This Conservation Action

Agricultural and Forestry Effluents

Conservation Action	Category:	Biological Priority:	Type:
Conduct a statewide review of potential high quality barrens habitat that is threatened by succession and identify strategic habitat restoration actions for implementation by key conservation partners.	Habitat Management	critical	new

Stressor(s) Addressed By This Conservation Action

Fire and Fire Suppression

Broad Taxonomic Group Conservation Actions:

Additional relevant conservation actions for this species are assigned within broader taxonomic groups in Maine's 2015 Wildlife Action Plan: Element 4, Table 4-1.

Habitat Based Conservation Actions:

Additional conservation actions that may benefit habitat(s) associated with this species can be found in Maine's 2015 Wildlife Action Plan: Element 4, Table 4-15. Click on the Habitat Grouping of interest to launch a habitat based report summarizing relevant conservation actions and associated SGCN.

The Wildlife Action Plan was developed through a lengthy participatory process with state agencies, targeted conservation partners, and the general public. The Plan is non-regulatory. The species, stressors, and voluntary conservation actions identified in the Plan complement, but do not replace, existing work programs and priorities by state agencies and partners.